Spring 2012

University of Maine General Education Requirements

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General Education Requirements

The General Education Requirements cover six broad areas listed below:

1. Science
2. Human Values and Social Contexts
3. Quantitative Literacy
4. Demonstrated Writing Competency
5. Ethics
6. Capstone Experience

The following updated category titles, descriptions, and student learning outcomes were approved by the Faculty Senate in the spring of 2012. They will become effective for the fall 2014 semester.

Science

Preamble

Students are required to complete two courses in the physical or biological sciences. This may be accomplished in two ways:

1. By completing two courses with laboratories in the basic or applied sciences;
2. By completing one approved course in the applications of scientific knowledge, plus one course with a laboratory in the basic or applied sciences.

Definitions and Explanations

1. A laboratory course in the applied physical or biological sciences brings basic knowledge to bear on the solution of practical problems in engineering, medicine, agriculture, forestry, and other fields for which natural science forms the foundation. Normally applied science courses require one of the basic natural sciences (biology, physics, chemistry, geology) as a prerequisite, and carry at least 4 degree credits.
2. A course in the applications of scientific knowledge has the following attributes:

    a) it focuses on one or more basic or applied natural sciences

    b) it includes significant blending of presently accepted science with its application in common situations;

    c) it discusses both the applications and limitations of the relevant scientific methodology;

    d) it includes as a major component of the course the observation of natural phenomena coupled with the gathering of data and its quantitative analysis, and its interpretation in an expository format;

    e) its overall focus is on guiding students towards the scientific literacy necessary for modern life rather than on training future science professionals.

A science course, laboratory or applied, will have the following student outcomes embedded within the course. The outcomes are based on "The Nature of Science" as published in "Science for All Americans Online" at http://www.project2061.org/ publications/sfaa/online/chap1.htm (sponsored by American Association for the Advancement of Science (AAAS)). Retrieved February 2012.

Student Learning Outcomes

Students completing the general education area of Science will be able to:

1. Explain what makes knowledge scientific, i.e., "…things and events in the universe occur in consistent patterns that are comprehensible through careful, systematic study." (AAAS)

2. Demonstrate the appreciation that scientific knowledge is subject to change as new observations and interpretations challenge current understanding.
3. Recognize that valid scientific information is durable, i.e., it is continually affirmed as new observations are made.
4. Perform scientific inquiry including aspects of the scientific method, such as observation, hypothesis, experiment, and evaluation. Note: Covered in laboratory science courses but not necessarily in applied science courses.

Human Values and Social Contexts

Students are required to complete 18 credits in this broad area selected from lists of approved courses to satisfy each of the five sub-categories below. Courses that satisfy requirements in more than one sub-category may be counted in each appropriate sub-category.

1. Western Cultural Tradition
2. Social Contexts and Institutions
3. Cultural Diversity or International Perspectives
4. Population and the Environment
5. Artistic and Creative Expression

Human Values and Social Contexts: Western Cultural Tradition

Preamble

The Western Cultural Tradition involves the historical and/or philosophical examination of the basis of Western culture. Subject areas may include, but are not limited to, artistic, economic, education, historical, legal, linguistic, literary, performative, philosophical, political, rhetorical, scientific, and social dimensions of the Western cultural tradition and its impact.

Student Learning Outcomes

Students completing the General education area of the Western Cultural Tradition will be able to:

1. Examine the sources, transmission, development and outcomes among ideas, institution, artifacts, and values within the traditions of the West.
2. Recognize and explore the complexity and variety among ideas, traditions, institutions, archaeological and historical texts and artifacts and values that inform the cultural traditions of the West.

3. Analyze and think critically about how societies are or have been defined by such cultural traditions.

Human Values and Social Contexts: Social Contexts and Institutions

Preamble

Courses included in the Social Contexts and Institutions category focus upon the ways in which social contexts shape and limit human institutions (defined broadly to include customs and relationships as well as organizations). The specific focus may be upon ways in which social contacts and institutions interact with human values, the role of institutions in expressing cultural values, or the social and ethical dimensions attendant upon particular academic disciplines.

Student Learning Outcomes

Students completing the general education area of Social Context and Institutions will be able to:

1. Identify, describe and analyze social contexts and human institutions
2. Recognize and critically evaluate the interaction between social contexts and human institutions

Human Values and Social Contexts: Cultural Diversity or International Perspectives

Preamble

A course included in the Cultural Diversity or International Perspectives category satisfies one or more of the following criteria: (a) it places primary emphasis on the experiences, perspectives, and cultural work of one or more groups who are not dominant within a particular culture; (b) it has a primary goal encouraging students to become aware of the diversity of American culture

and to discover their roles within that diversity; or (c) it places primary emphasis on the relationships among or within different cultures in the past or present; (d) it introduces students to a culture other than their own through an intermediate or advanced course in the language of that culture.

Student Learning Outcomes

Students completing the Cultural Diversity or International Perspectives general education area of will be able to do at least one of the following:

1. Recognize the experiences, perspectives, and cultural values of one or more groups who live within a culture different than their own.
2. Describe the diversity of American culture and reflect on their personal roles within that diversity.
3. Identify and assess how different cultures have related to each other either in the past or the present.
4. Achieve intermediate or advanced mastery of a language other than English.

Human Values and Social Contexts: Population and Environment

Preamble

Courses included in the Population and Environment sub-category help students to understand how humankind interacts with our finite physical and biological environment. This understanding can be fostered in different ways. Some courses may emphasize technical, scientific problems and solutions. Others may focus on institutional, historical, and political dimensions, and others may focus on the cultural, ethical, and philosophical issues underlying current environmental problems. Courses fulfilling this requirement should address at least one of the following:

1. the role of both local and global environmental change on the quality of human life;
2. the pervasive role of human population growth on environmental quality and the quality of life, both in industrial and developing countries;

3. the influence of historical, cultural, religious, economic, educational, and political factors on population growth and environmental quality;
4. the ethical and philosophical assumptions underlying environmental policies and thinking about nature and the place of humans in nature;
5. possible sustainable solutions to the population/environment problems.

Student Learning Outcomes

Students completing the general education area of Population and Environment will be able to do at least one of the following:

1. Recognize and understand the role of both local and global environmental change on the quality of human life,
2. Describe the influence of diverse factors, such as philosophical, cultural, religious, economic, educational, and political, on population growth and environmental quality,
3. Understand the concepts and principles necessary to evaluate contemporary issues of population growth, natural resource conservation, and environmental protection,
4. Interpret diverse types of information about environmental issues, to develop their own perspectives on these issues, and to communicate these perspectives effectively,
5. Understand and describe technical and/or scientific approaches for addressing problems that arise in the relationship between human population and the environment.

Human Values and Social Contexts: Artistic and Creative Expression

Preamble

Courses included in the Artistic and Creative Expression category engage the student in creative thinking and processes. A primary objective is to develop skills and intellectual tools required to make artistic and creative decisions, and to participate in, evaluate, or appreciate artistic and creative forms of expression.

Student Learning Outcomes

Students completing the general education area of Artistic and Creative Expression will be able to:

1. Participate in, identify or evaluate artistic and creative forms of expression.
2. Develop skills and/or intellectual tools central to the artistic and creative process or its critique.

Quantitative Literacy

Students are required to complete at least six credit hours in Quantitative Literacy.

Preamble

Quantitative literacy is the ability to formulate, evaluate, and communicate conclusions and inferences from quantitative information. Students will develop their quantitative literacy during their undergraduate experience through courses targeted at quantitative literacy and through frequent exposure to quantitative problems and analyses both inside and outside their major.

Student Learning Outcomes

Upon completion of general education study in quantitative literacy, students will understand the role that mathematics and quantitative thinking plays in solving and communicating information about real world problems and relationships. Students will be able to:

1. Translate problems from everyday spoken and written language to appropriate quantitative questions.
2. Interpret quantitative information from formulas, graphs, tables, schematics, simulations, and visualizations, and draw inferences from that information.
3. Solve problems using arithmetical, algebraic, geometrical, statistical, or computational methods.
4. Analyze answers to quantitative problems in order to determine reasonableness. Suggest alternative approaches if necessary.
5. Represent quantitative information symbolically, visually, and numerically.

6. Present quantitative results in context using everyday spoken and written language as well as using formulas, graphs, tables, schematics, simulations, and visualizations.

Instructors of courses offering General Education credit in the area of Quantitative Literacy will indicate how the Student Learning Outcomes will be achieved on their syllabi. Assessment practices are, for the most part, embedded within the courses awarding general education credit and are appropriate to the content and goals of each course and program.

Demonstrated Writing Competency

Preamble

Students are required to write throughout their academic careers and must demonstrate competency both at the introductory level and within their majors. To fulfill this requirement, students must:

1. Complete ENG 101, College Composition with a grade of C or better, or earn transfer credit by challenging the course successfully through presentation of a portfolio of past work demonstrating mastery of course outcomes.

2. Complete at least two writing-intensive courses, at least one of which must be within the academic major.

Definitions and Explanations -

In a writing-intensive course:

1. students must have an opportunity to revise their writing in response to feedback from the instructor;

2. a substantial portion of the student's final grade must be based upon the quality of the written work, and

3. course enrollment should normally be limited to 25 students or less.

Student Learning Outcomes

Students completing the general education area of Demonstrated Writing Competency will be able to:

1. Critique and revise their writing.

2. Achieve the intended purpose in the writing task, with awareness of audience.

3. Identify and fully develop ideas to a specific thesis.

4. Organize ideas effectively.

5. Adhere to proper mechanics and style.
6. Achieve clarity of expression in language, argument, rhetorical form, and idea.

Ethics

Preamble

Students are required to take a course or a series of courses placing substantial emphasis on discussion of ethical issues. The ethics requirement can be satisfied by

1. a stand-alone course in which ethics constitutes a substantial focus of the course, or
2. a well defined series of courses required in a particular curriculum, wherein the treatment of ethics in any one course may be somewhat less, but which taken together sum to a substantial emphasis on ethics. Courses that satisfy the ethics requirement must have a theoretical component and have one or more of the following attributes:
    a) they teach methods of ethical analysis
    b) they deal intensively with ethical issues associated with a particular discipline or profession;
    c) they engage the student in the study of ethical questions arising through the interpretation of literature or history, or social scientific analysis designed to include ethical evaluation. In order for a course to be approved under this criterion, the treatment of ethics must be substantial rather than merely incidental.

Student Learning Outcomes

Students completing the general education area of Ethics will be able to do one or more of the following:

1. Understand and describe main issues and concepts relevant to ethical theory.
2. Demonstrate their ability to work effectively with ethical issues and theories through their analysis and evaluation of the theoretical, literary, historical or artistic texts through which fundamental ethical ideas and problems are presented.

3. Critically evaluate the ethical ideas they are studying and apply these ideas to situations of everyday life.

Capstone Experience

Preamble

Every program must include an approved capstone experience. The goal is to draw together the various threads of the undergraduate program that bear directly upon the academic major in an experience that typifies the work of professionals within the discipline. Normally, the Capstone would conclude at the end of the student's senior year. Students should consult closely with their academic advisor to explore the range of options available for meeting this requirement.

The capstone experience should have the following attributes:

1. the experience must be of significant depth and require innovation, creativity, reflection and synthesis of prior learning;
2. the experience must result in a thesis, report, presentation, or performance that demonstrates mastery of the subject matter
3. faculty/student interaction should be an integral part of the experience.
4. minimum student effort in the capstone should reflect the equivalent of three credits of work
5. Interdisciplinary experiences and opportunities for group participation in the capstone experience should be encouraged.

Student Learning Outcomes

Students completing the general education area of Capstone Experience will be able to:

1. Synthesize knowledge, skills, and dispositions gained throughout the student's major concentration of study.
2. Demonstrate competence within the discipline through professional conduct and, as appropriate, critical reasoning, analytical ability, and creativity.
3. Demonstrate effective communication skills.